ABSTRACT OF THE DISCLOSURE

Infectious human cytomegalovirus (HCMV) were isolated *in vitro* from a pool of randomized sequences after sixteen or 21 cycles of selection and amplification. The ligands characterized exhibited high HCMV-binding affinity *in vitro* and effectively inhibited viral infection in tissue culture. Several ligands blocked viral entry. Their antiviral activity was also specific as the ligands only reacted with strains of HCMV, but not with the related herpes simplex virus 1 and human cells. Moreover, the ligands recognize several different epitopes. Thus, RNA ligands can function to bind to a human virus and block viral infection. The screening method may utilize the novel features of binding to intact infectious virus, partitioning the bound polynucleotides from unbound by passing through a porous filter, and enhancing the release of bound polynucleotides by treatment with protease.